

REMARKS

This is in response to the Official Action mailed March 20, 2008. In the present paper, claims 1, 8 and 20 are amended. Claims 3, 7, 9, 10 and 17-19 had been canceled in previous papers. Claims 1, 2, 4-6, 8, 11-16 and 20 are presented for the Examiner's consideration.

Claim Rejections

In the outstanding Official Action, the Examiner has rejected claims 1, 2, 4-6 and 20 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Publication No. 2002/0073304 to Marsh et al. ("Marsh") in view of U.S. Patent No. 6,466,572 to Ethridge et al. ("Ethridge"), and has rejected claims 8 and 11-16 under 35 U.S.C. § 103(a) as unpatentable over Marsh in view of Ethridge and further in view of U.S. Patent No. 6,678,741 to Northcutt et al. ("Northcutt").

The Present Invention

The inventors have developed a technique and system for automated software distribution in a fiber optic network. The software is distributed to one or more host digital terminals (HDTs) in the network, and to one or more optical network units (ONUs) connected to each HDT. In the HDTs, the software resides on an optical multiplexing unit (OMU). In the ONUs, the software resides on an optical interface unit (OIU). One of the goals of the invention is to assure compatibility of the software residing in the OMUs with the software residing in the OIUs. (present specification, page 2, line 22 - page 3, line 10; page 8, lines 9-12; page 13, lines 2-17).

In operation, the system of the invention first identifies the version of software installed in a network element such as the OMU, and then determines whether the version is a prescribed

version. If the version is not the prescribed version, then the prescribed version is downloaded and the software is updated (present specification, page 15, lines 11-13). If the correct version is found on a network element, then the system proceeds to examine other elements in the network. In other words, the version is downloaded *only* if a correct version is not found on a network element.

An example of the method of the invention is claimed in method claim 8. Claim 8 is directed to a method for automated distribution of software in a fiber optic network including at least one host digital terminal (HDT) that includes at least one optical multiplexing unit (OMU) and at least one optical interface unit (OIU), and including at least one optical network unit (ONU) that includes at least one further OIU. The method includes the steps of (a) identifying a version of first software installed on the OMU; (b) identifying a version of second software installed in the further OIU connected to the OMU over a fiber optic connection; and (c) determining whether there is at least a further ONU connected to the OMU over a fiber optic connection. If there is a further ONU connected to the OMU, then a version of software installed in at least one OIU included in the further ONU is identified. If not, then the following steps are performed: determining if the second software is compatible with the first software; only if the first software is not compatible with the second software, then downloading an updated version of the first software to the OMU and updating the first software; and determining whether the fiber optic network includes at least a further OMU and, if so, repeating the method for the further OMU.

Claim Amendments

Each of the independent claims 1, 8 and 20 has been amended to clarify the invention claimed. The step of downloading an updated version of software to a network device (OMU, ONU, OIU) has been added to each independent claim. The downloading step is claimed to be executed only if the identified software is not compatible (claim 8) or not the prescribed version (claims 1 and 20). The specification as filed fully supports those amendments, for example, at page 15, line 6 - page 16, line 8.

Additionally, claims 8 and 20 have been amended to change “multiplexer” to “OMU,” and claim 20 has been amended to add additional steps (f) and (g) to be conditionally performed when there is a further ONU. Those amendments correct clerical errors in previous papers, and are fully supported by the specification.

The Marsh Patent Publication

The Examiner has cited Marsh as the primary reference in rejecting each of the claims. Marsh is directed to a system for enabling a system administrator to remotely deliver firmware updates to a plurality of network-coupled computing devices (Marsh at [0001]). To perform an upgrade, a modified boot image is delivered to a computing device (Marsh at [0037]). The modified boot image includes a system loader, a system loader configuration file and a firmware patch (Marsh at [0037]).

In one embodiment of Marsh, after the modified boot application is downloaded, the firmware patch invokes an install application including a flash application that verifies that the presently installed firmware is indeed a version that is designated for the firmware upgrade (Marsh at [0040] - [0041]). If the firmware version is designated for upgrade, the firmware is

replaced ([0041]); if not, an administrator may be notified ([0045]; [0047]). Whether the firmware requires updating or not, the firmware revision is initially delivered to the computing device.

The system of Marsh can be used to “push” a firmware upgrade to a plurality of networked computer systems (Marsh at [0045]). Marsh does not, however, teach upgrading more than one firmware package in a network.

Independent Claims 1, 8 and 20: Marsh Does Not Teach Downloading Only if a Software Version is not the Prescribed Version

The Applicants have amended each of the independent claims to add the step of downloading the prescribed software version to a network device (OMU, ONU, OIU), and to require that that step be performed only if the identified software is not the prescribed software version or is not compatible. For example, in amended claim 8, it is first determined whether the identified software is compatible, and only if it is not, then an updated version is downloaded. Independent claims 1 and 20 have been amended to require determining whether the identified software is a prescribed version, and, only if not, then downloading the prescribed version.

In contrast to the claimed method and system, Marsh discloses downloading a firmware patch that contains both the firmware upgrade and an application for performing a verification of the firmware version. Thus, the intended firmware upgrade is downloaded whether or not it is eventually found to be compatible with the presently installed firmware (Marsh at [0047]).

The Examiner points to FIGS. 5 & 6 and paragraph [0045] of Marsh as teaching the updating step. FIG. 6, however, clearly shows delivering the firmware install patch to the boot

disk (step 710) before starting the install application and checking the firmware version (steps 715, 720).

Applicants therefore assert that each of the independent claims 1, 8 and 20 are patentable over the cited combination because Marsh does not disclose downloading a prescribed software version only if the identified version is not the prescribed version.

Claims 1 and 8: Marsh Does Not Teach Identifying and Updating Second and Third Versions of Software

Independent claims 1 and 8 performs steps on more than one software. In claim 1, the steps are performed on a first software installed on an OMU and again on a second software and a third software installed on OIUs. In that way, the inventors assure that the first and second software are compatible to minimize inconsistencies (present specification at page 13, lines 2-17). Similarly, in claim 8, compatibility is determined between first software and second software.

In contrast, Marsh deals with only a single software. The Examiner has pointed to a passage of at paragraph [0045] as teaching “a plurality of networked computer systems.” The complete sentence quoted by the Examiner is reproduced here:

As a result, it is possible to configure the firmware patch 500 of the present invention to provide suitable feedback to a system administrator 610 that "pushes" the firmware upgrade to a plurality of networked computer systems 100b-100f to indicate the status of the firmware upgrade.

Marsh at [0045]. Applicant respectfully disagrees with the Examiner’s analysis. While Marsh may teach “pushing” the firmware upgrade to more than one computer system, Marsh refers to

the firmware upgrade; i.e., one upgrade. Marsh does not deal with first and second software, and is not concerned with compatibility between more than one software, as is the invention claimed in claims 1 and 8.


Applicants therefore assert that independent claims 1 and 8, together with those claims depending from claims 1 and 8, are patentable over the cited combination for that additional reason.

Conclusion

Applicants therefore respectfully assert that claims 1, 2, 4-6, 8, 11-16 and 20 are in condition for allowance, and earnestly request that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

Respectfully,

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